

Realising the dream

Designing discussions, decisions and data to achieve real progress



Innergise

Published by
Innergise Pty Ltd, Melbourne, Australia.
ABN 14 605 954 818
www.innergise.com.au

Copyright © Innergise Pty Ltd, 2015.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of Innergise.

This paper should be read in full and no excerpts taken as representative of the whole. The passage of time, changing circumstantial conditions and future events may demand re-assessment of the underpinning data, information and advice and the resultant analysis, observations, findings, conclusions and recommendations. As such, no warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this paper, to the extent permitted by law.

Innergise accepts no responsibility for use of any part of this document in any context, nor liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

Cover photo by Greg Rakozy, unsplash.com free high resolution photos, 23 October 2015

Citation: Nicholas S. Fleming (2015) *Realising the dream – designing discussions, decisions and data to achieve real progress*, Innergise Pty Ltd, Melbourne.

This paper and other papers and articles are available for download from
www.innergise.com.au

Realising the dream

Designing discussions, decisions and data to achieve real progress

As the potential grows to collect and analyse ever increasing amounts of data, business and program managers would do well to first consider how their information needs are being met.

Experience reveals that many public and private organisations are wasting time and money on data systems that either aren't used or feed tangentially relevant data into vague decision processes responding to ill-defined questions from misunderstood audiences.

Organisational performance is lower and costs and risks are higher than need be.

Fortunately simple methods exist to reduce the costs and substantially increase the value from their existing data collection and reporting activities. Employed thoughtfully, these methods can materially improve the data that is collected and the decisions that are made, enhancing the productivity and prosperity of industry and society.





Nick Fleming is the author of this paper, the founder of Innergise and a business leader, performance partner, coach, writer and sought-after public speaker.

Nick's been sustainably developing regions and industries for over 20 years, leveraging his background in engineering, a PhD in sustainable infrastructure, and experience in business governance and executive leadership. He's worked internationally across industry sectors including water, transport, mining, defence, power and resources.

Nick has a unique aptitude for finding elegant solutions to complex problems. It's why he's engaged at Board, executive and program management levels to help shape pragmatic solutions to difficult business, project and community challenges.

He applies his sharp strategic insight, executive leadership experience, skills in facilitating innovation and design thinking, and insights from psychology to unleash and focus people's latent talents. Working alongside his clients, using proven collaborative design methods, Nick helps to focus effort on the right problems in a strategic and structured way. For Nick it's all about better placed effort, not more effort, to deliver immediate and lasting results.

As the managing director of Innergise, Nick partners to offer teams of seasoned, like-minded professionals to work with those special clients and leaders who embrace and shape change, aspire to better outcomes and support their people to learn and grow.

Productivity, progress, prosperity.

Realising the dream

Designing discussions, decisions and data to achieve real progress

As the potential grows to collect and analyse ever increasing amounts of data, business and program managers would do well to first consider how their information needs are being met. Experience suggests most organisations could reduce the costs and substantially increase the value from their existing monitoring and reporting activities.

Each working day, whatever our profession or pursuit, we like to know that our effort is valued and makes a useful contribution. Whether it's the team we're leading, the program we're managing, the enterprise we're running or region we're shaping, we'd like to think it's getting better. The question is: how do we know?

Are you confident your work is effective and your organisation is continually enhancing its value to investors and society? We'd all like to answer with a confident "yes". Yet very often that's not a realistic answer, either because it's not the case or we simply don't have the evidence to back it up.

Now, more than ever, having the data to inform and demonstrate progress is essential to success. Mining and gas companies need data to demonstrate their operations aren't harming the environment and eroding their legal and social licences to operate. Government agencies need data to reshape the delivery of health services or to validate the benefits of new infrastructure investment. Consulting firms need data to drive productivity improvements while negotiating a changing industry structure. Irrespective of the situation, being armed with information that answers the critical questions is a distinct advantage.

Our whole world is data – so how much should we collect?

All organisations collect data. The reasons are many and varied. Some data is collected because it's required by law and reflects good, long-standing business practices. Financial data and reporting would fall into this category; indeed, it may be the only

data to which some organisations pay any serious attention. Of course there are many other purposes for data collection illustrated in Box 1.

Data points are like stars in an infinite universe – vast and boundless. So many types of data can be collected, comprising vast quantities over time. It underscores the importance of understanding what data has the potential to generate value in excess of its cost of collection and use.

Box 1. Reasons for collecting data, using an agricultural context for illustration.

Developing understanding such as how genetically modified (GM) crops function at a biological level.

Developing insight such as how best to deploy GM crops in a farming community

Developing predictions using the collected data as input to models, such as might relate to future crop yields to changing climatic conditions.

Validating inputs such as the provision of labour and materials for production.

Validating action such as the completion of tillage and crop seeding.

Validating outputs from a productive process, such as the yield of a crop,

Demonstrating outcomes such as the robustness and profitability of a GM cropping system.

"In God we trust.
All others must
bring data."

W. Edwards Deming, statistician,
professor, author, lecturer, consultant

The ability to collect and analyse data is growing

Rapid technological advancements over the past few decades have transformed our relationship with data.

The volume of data that we create and copy is doubling every two years – the product of an increasing number of people using an increasing number of digitally enabled devices [1]. Data sets are growing in size and variety, being collected by cheap and numerous sensing devices like mobile phones, cameras, transponders and CCTV cameras, complemented by embedded routines in software that autonomously compile data.

“Big data” is the term that has emerged in response to the burgeoning capability, capacity and appetite to work with large data sets. It essentially applies to data sets that are too big to handle using traditional storage and analysis methods like desktop computer databases and spreadsheets. While it might once have been an issue confined to government agencies and the largest of private enterprises, modern sensor and computing technology makes it an opportunity of much wider interest and appeal.

Advocates explain that big data is becoming the foundation for competition, offering new ways to learn about and service customers, improving productivity, triggering innovation and speeding up business cycles. It’s not only the quantity of data that’s valued but the potential to mash it together to gain new insights.

Marketing professionals are already leveraging big data to expand sales. Anyone that has purchased products online will have encountered this. Take, for example, the “Recommended for you” selection of

products provided by Amazon that is based on your prior purchasing behaviour. Of course it’s not only the fast moving consumer goods (FMCG) sector that can reap benefits. Healthcare, manufacturing and the public service (including tax and transportation agencies) are commonly cited as sectors that will particularly benefit [2].

Alongside the excitement about big data is also fear. With each hack, leak, and act of piracy and sabotage, people grow more aware that the potential to reap benefits from big data will depend on people’s confidence in the enabling technology and institutions [3].

Furthermore, while advocates promote “cheap and powerful new insights for competitive advantage” – that is, benefits from low marginal costs – what’s often overlooked is the capital costs and effort involved. There are numerous challenges in establishing and maintaining the underpinning infrastructure, many of which are yet to be satisfactorily resolved.

Massive, secure and ever-expanding databases need to be established, secured and maintained. Organizations need not only to put the right talent and technology in place but also structure workflows and incentives to optimize the use of big data. Then there are challenges in the analysis of data, visualisation of results to make it accessible, and maintenance of privacy. This demands the development and retention of people with the relevant skills not just in information and communications technology (ICT) but strategy,

Box 2. Surveys demonstrate that leaders in both private and public enterprises perceive a range of important benefits from the use of big data and associated analytics.

(a) The perceived, proportional benefits of big data to commercial enterprises [15]



(b) The perceived, proportional benefits of big data to government agencies [16]



communications, intellectual property management, security and business processes to name a few.

Governance frameworks and protocols to allow efficient collection, consolidation, use, reuse and sharing of data by multiple parties are critical. Much work remains to be done in this respect by business and government in particular [2].

Thus while big data is likely to transform many aspects of government and commerce, it will take determination and a skilled workforce to optimise the benefits. Given that the digital universe more than doubles every two years, the pressure is on for organisations to adapt fast [1]. It demands insightful, focused engagement.

Some industries possess under-utilised data

There are, of course, situations where organisations and even industries possess large volumes of data that are still largely untapped, either because the incentives or enabling technology or both have been absent. Banks, for example, are reported to only use a third of their available data because it often sits in databases that are hard to access.

The power generation and distribution sector in Australia is another example. Huge volumes of data are generated each day as network participants generate, send and respond to energy pricing signals. Much of this data is used in the moment and then stored. Years and terabytes of data now sits idle. But as the industry undergoes what it likely to be transformative change – in response to more renewable energy generation, battery storage, carbon pricing and an evolving gas market – opportunities exist to mine the data. Industries, companies and households could soon have the capacity to participate in micro-trading of energy, optimising the generation and distribution of energy in real time. It's where the historical power data could be mashed with population, industry mix and climate data to reveal powerful insights and heuristics that can make the possibilities become realities.

More data doesn't mean better information

In principle, having data accessible for people to use is a good thing. Beyond that simple statement, things become a bit more complicated.

Only when *relevant* data is combined and/or presented in a *credible, meaningful* way does it become useful information. How that occurs depends on the rules and judgements applied to raw data. If the data or rules are flawed or incomplete, then the information will also carry an inherent weakness, potentially becoming useless or even harmful.

Consider these two perspectives on the interpretation and use of data relating to crime.

Case 1. In the USA in the early 1990s serious crime rates were escalating dramatically. Even the most optimistic forecasts in government-commissioned reports said the situation would get even worse, escalating the issue to the top of the Presidential agenda. Then something unexpected happened. Crime rates, across multiple categories, started to drop consistently year on year. The experts, initially confounded, provided an encouraging explanation: economic growth, gun control and innovative policing strategies had resolved the issue. Steven Levitt and Stephen Dubner, authors of the best-selling book 'Freakonomics' [14], used statistical analysis to dismiss the experts' explanation. They argued the decline in crime had been seeded twenty years earlier in a landmark court case that legalised abortion throughout the United States. The consequence, they argue, was a dramatic decline in the number of disadvantaged children and hence those in their criminal prime in the mid-1990s. Fewer criminals, less crime.

Case 2. When governments share data, that data changes behaviour. If a city publishes a crime map, then the police know where they are most likely to catch criminals. Home owners who can afford to leave can flee the area, businesses will shutter, and that high crime prediction turns into a self-fulfilling prophecy [5].

"What gets measured gets managed."

Peter Drucker,
father of modern management

Contemplate the practical consequences of each of these stories in isolation and then in combination.

Will the rise of big data alleviate or exacerbate this sort of situation? The first observation is that big data can be very useful in detecting correlations. Unfortunately, it's less good at telling us which correlations are meaningful. Indeed, people too often mistake correlation for causation. Furthermore, using a big data set doesn't mean you don't have to worry about having biased samples or biased interpretations.

Case 3. Arguably the most well-known and important example of a correlation being clear but causation being in doubt concerned smoking and lung cancer in the 1950s. There had been a sixfold increase in the rate of lung cancer in the preceding two decades. Nobody disputed that there was a correlation between lung cancer and smoking, but to prove that one caused the other would be no mean feat. There might be a confounder that was responsible for the correlation between smoking and lung cancer. The increased rate could have been the result of better diagnosis, more industrial pollution or more cars on the roads belching noxious fumes. Perhaps people who were more genetically predisposed to want to smoke were also more susceptible to getting cancer? It took a study involving more than 40,000 doctors in the UK to show conclusively that smoking really does cause cancer [6].

What does this tell us? It's that preparation of information must be underpinned by a solid understanding of the system that it describes, whether it is a natural ecosystem, manufacturing facility or a disadvantaged community. Not only do we need data about the key attributes that characterise a system but critically how they relate and under what circumstances those relationships hold true. This is why techniques like systems mapping [7] and causal factor analysis [8] are gaining increasing awareness and application, particularly as our man-made systems are becoming ever more inter-connected and complex.

Better information doesn't mean wiser decisions

Just as more data doesn't guarantee better information, nor does good information ensure wise decisions. All manner of human biases and frailties contribute to poor decision making.

Daniel Kahneman gives many illuminating examples in his book *Thinking Fast and Slow*. He explains our thinking is riddled with systematic mistakes known to psychologists as cognitive biases. And they affect everything we do. They make us spend impulsively, be overly influenced by what other people think and jump to rash conclusions. They affect our beliefs, our opinions, and our decisions, and we have no idea it is happening.

It may seem hard to believe, but that's because your logical, slow mind is a master at inventing a cover story. Most of the beliefs or opinions you have come from a sub-conscious automatic response. It's then that your logical mind invents a reason why you think or believe in that automatic response [9].

While experience can contribute to better decision making, it can also reinforce false or narrow perceptions. Thinking and making decisions with other people is often a better strategy. This "wisdom of crowds" has been appreciated for millennia, more recently reinvigorated and explained by modern psychology, neuroscience and statistics.

What can now be demonstrated is that groups of people will consistently make better decisions than individuals – including 'experts' – when one critical condition is met: that people's decisions are independent of one another. As long as some of the predictions made by individuals are on both sides of the true answer, crowd forecasts will always be closer to the truth than the average individual in the crowd. It's a mathematical fact.

For similar reasons decision making by consensus can be risky. The act of seeking a consensus decision amongst a group, and the social interaction and influence that's innately involved, can undermine the quality of that decision. People end up being herded more narrowly toward what is often

"If we have data, let's look at data. If all we have are opinions, let's go with mine."

Jim Barksdale, former Netscape CEO

an arbitrary position. Indeed, herd behaviours around flawed assumptions from experts (like former Chairman of the US Federal Reserve, Alan Greenspan) were widely regarded as major contributing factors to the global financial crisis [10,11].

These are just some of the reasons in favour of greater diversity in our organisations. Not only should we foster diversity of experience and perspective in executive suites, boardrooms and the cabinet rooms of government, but also in the teams that shape the way we think about and respond to problems at a more operational level. Too much data, poorly constructed information and cognitive biases can amount to some expensively flawed decision making.

Box 3. Social network analysis offers valuable insights for organisations

Having good information doesn't mean it gets to the people who need or can make the best use of it. Novel methods like Social Network Analysis are helping to reveal the true pulse of information as it flows into and across organisations. In itself it can be powerfully revealing, helping business leaders to ask what sort of information flows they would want and how it affects the expectations and performance of people in different roles. See, for example, the work of Optimice at www.optimice.com.au

Adopting a pragmatic approach

Teams of analysts crunching big data is hardly the reality for most organisations. Most enterprises don't share the computing power, natural data-gathering advantages and competitive motivations of the likes of Google or Amazon. Many won't have the capability, resources or even ambition to extend their data practices. Yet all teams and organisations should be regularly asking themselves a few questions:

- How can we confirm our data collection, analysis and reporting practices are serving us well?
- How are competitors and comparable organisations using data to gain advantage?
- What internal reporting do we rarely consider and act upon? Can we stop it and associated data collection?

- What business-critical decisions would we like to make for which we have little useful information? What is the potential cost differential between having and not having that information?

Some practical observations

Experience across the public and private sectors and multiple industries reveals that a lot of current data collection and reporting is not as meaningful or useful as it should be. This represents a substantial and unfortunate waste of time and money.

Case 4. A newly formed government agency was charged with driving important changes in the form and function. The goal was enhanced productivity, amenity and sustainability. Increasing the density of commercial and residential development was a key objective, particularly around transportation hubs like train stations. Regrettably the agency elected to collect and report information on average urban density as the indicator of progress. Would this tell them whether density increases were occurring where desired? No.

Your own personal experience might also reveal some lost opportunities. For example, have you been involved in preparing a report for managers or investors only to receive no actionable feedback, or indeed no feedback at all? If you've had this experience, why might it have occurred? There are many plausible answers, such as:

- It wasn't the information your audience needed, even if it's what they requested.
- The request for information was simply a procedural one to check on progress.
- Your audience didn't get time to consider the information presented.
- Your audience doesn't have a good discipline of dialogue and decision making.

In many cases the argument can be made that little or no feedback suggests the data and information provided simply wasn't essential. Were it not provided, no-one may have noticed or cared. You could have spent your time more productively elsewhere.

Case 5. Keith was a senior manager in a catchment management authority. He was responsible for preparing the monitoring

and evaluation plan for all environmental assets in his region. Having applied a much sharper focus to the connection between data and decisions in his own work, he got into the habit of asking people how they would use data requested from him. "Most of the time," he reported, "when I quiz people they can't really provide a meaningful answer. 'Hmm, that's a good question. I'll get back to you' they say, but you know what? They rarely do." Asking this question has saved Keith a lot of time by not having to respond to ultimately ill-conceived data requests.

A more fundamental question arises as to whether the information infrastructure that exists to gather the data and produce much of the reporting that occurs is really required. Could costs be saved and resources used more productively? Alternatively, what changes would be worthwhile to enhance the relevance and value of the data. Will the cost be commensurate with the benefits?

Case 6. In the United Kingdom, several of the biggest media companies meet every quarter to discuss and debate topical business issues. In 2010, the topic of corporate sustainability reporting was on the agenda – who does it, how, and who reads it? The results were fascinating. Almost all the companies at the table produced some kind of corporate responsibility or sustainability report. Most spent 3 to 6 months on its production – collecting the information, writing, working with designers and auditors. Yet no one had any real confidence that it was read by more than a few people. Nothing: no readership surveys, only a handful of hits on the website and little or no feedback. Simon Hodgson, Managing Director of Acona, concluded that the average corporate responsibility report – as a composite, multipurpose document – tried to fulfil several functions and consequently did none of them well [12].

Why should we pay more attention to our data processes?

Put bluntly, many public and private organisations are wasting time and money on data systems that either aren't used or feed tangentially relevant data into vague

decision processes responding to ill-defined questions from misunderstood audiences.

It's a cutting statement but one that is often easy to prove. It's the result of a combination of factors, including:

- a lack of clarity about the decisions that need to be made to drive real progress,
- a lack of clarity about the information that would enable those decisions,
- a lack of clarity about the systemic cause and effect relationships that define the dynamics of interest, and
- a lack of rigour in specifying data sets that are relevant and useful.

The corollary is that with better attention to these issues organisations can reap substantial benefits by collecting and using better data, as well as streamlining costs, and driving program and/or business improvement. The difference in return on investment between a situation of poor data leverage and effective data leverage can be vast.

Case 7. A gas company was developing a coal seam gas resource for local usage and export. The project was controversial and people in the affected farming communities had many concerns, including potential impacts on their precious water resources. Staff in the gas company felt that with more information people's concerns would be allayed. When the community's lack of trust in the gas company was recognised as a key business risk, staff felt inclined to prepare and distribute yet more scientific information. Yet after a careful process of dialogue with key community representatives it became clear that more information was the last thing they wanted. The question they needed answered was "How will we know when we need to be worried and what we need do to about it?" A farmer, for example, just wanted to know when there was a real threat to his water resource and what action he should take to protect it. In the meantime he didn't have time to deal with more information. He just needed to know and be shown that a reliable management system was in place. The gas company could focus its attention on this question and save its people time and money from needless data analysis and reporting.

"Facts do not cease to exist because they are ignored."

Aldus Huxley

In competitive markets organisations that can leverage data to gain new insights can out-compete or even transform markets. Bain & Company [13] demonstrated this point as they sought to test the rhetoric around the benefits of big data. By examining 400 large companies they found that those with the most advanced analytics capabilities were outperforming their competitors by wide margins, being:

- twice as likely to be in the top quartile of financial performance within their industries,
- five times as likely to make decisions much faster than market peers,
- three times as likely to execute decisions as intended, and
- twice as likely to use data very frequently when making decisions.

A simple approach to superior performance

It's clear the opportunity exists for all organisations to achieve better insights and decisions by collecting and using data in a more outcome-focused way. This doesn't mean collecting more data. It means connecting data collection and analysis processes to the areas of insight and decisions that really matter.

In an organisational context, where adaptive management and continuous improvement are widely accepted operating principles, the goal for data management is to furnish information that enables decision taking by people with the influence to drive change and progress.

Conceptually what this means is that the adaptive management cycle – plan, deploy, review, improve – should be lubricated by the flow of useful information. In particular, information should close the gap that often exists in practice between the Improve and Plan phases so that decisions are made, feedback is provided and improvement actions occur.

This proposition is simple and almost trite, yet it's an important insight because its practical application can make all the difference. By 'reverse engineering' the adaptive management cycle, we can design a monitoring, evaluation and information system that efficiently furnishes high-value information by design (see Figure 1).

The DREAM process to follow is summarised below. Try it yourself using a project or business issue you're working on and the DREAM canvas in Figure 2.

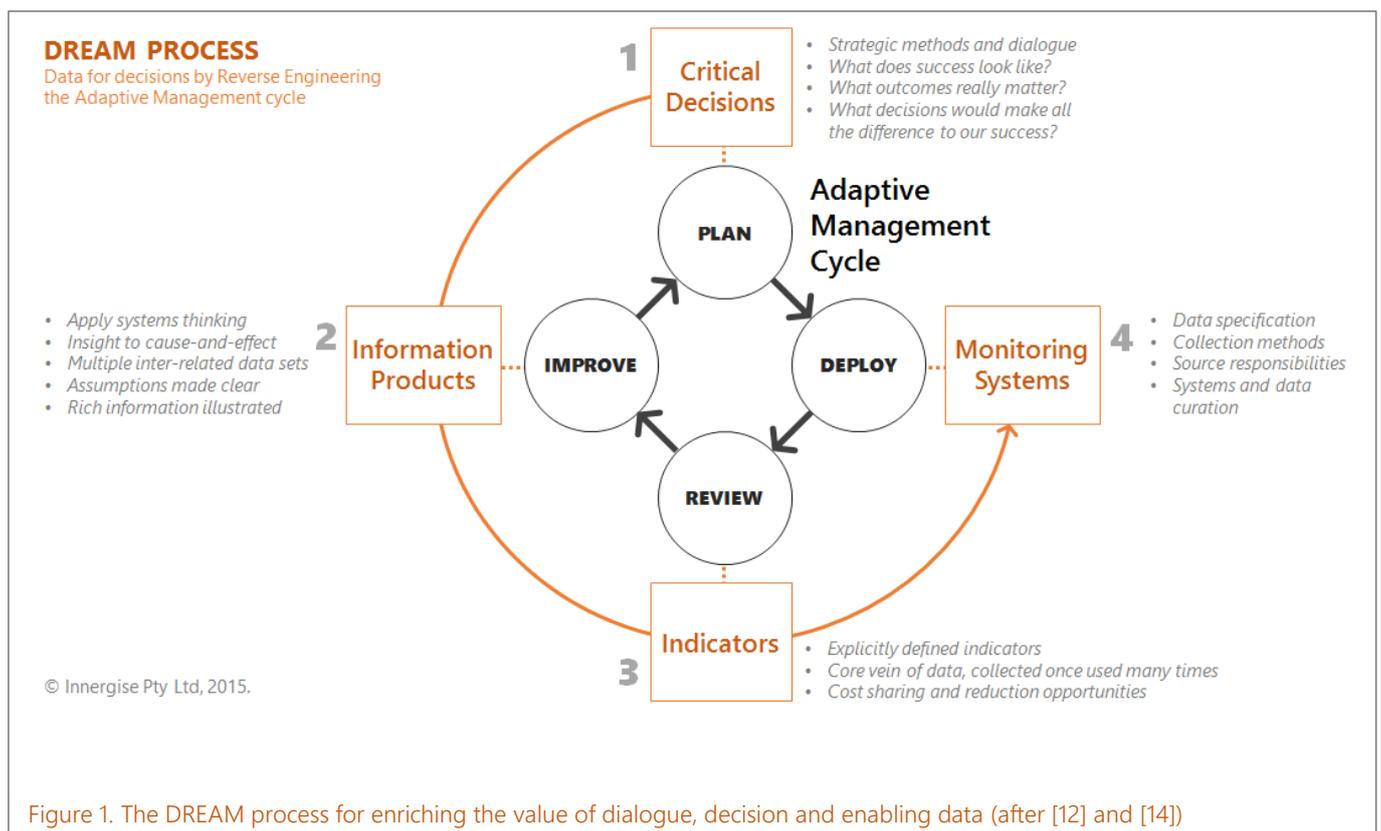


Figure 1. The DREAM process for enriching the value of dialogue, decision and enabling data (after [12] and [14])

“If you don’t know how to ask the right question you discover nothing.”

W. Edwards Deming, statistician, professor, author, lecturer, consultant

“Not everything that can be counted counts, and not everything that counts can be counted.”

Albert Einstein

1) Identify the decisions that really matter

What decisions do you want to be taking to drive real, meaningful progress? People often find it challenging to answer this question. It’s typically the hardest but often the most rewarding part of the process because of the clarity and focus it provides. It forces you to think about what success looks like within your current and emerging operating context. It can involve important strategic discussions at a whole-of-organisation or business unit level, through to a rich dialogue about what customers want at a more operational level.

2) Design valuable information products

Knowing what the critical business decisions are, the task is then to design content-rich information products that would effectively inform and enable those decisions. What would that look like for the business issue you’re considering?

People find that it rarely involves a single data set. Rather, the information product illustrates important trends and inter-relationships between key data sets.

The best way to conceive the information product is literally to sketch it. Again people find it a very interesting and informative process requiring a few iterations to achieve clarity and consensus.

Assumptions and uncertainties should also be explicitly articulated. It’s an important aspect of monitoring, evaluation and reporting that is often over-looked [12].

Note: the two tasks above can often expose gaps in knowledge not only about business goals and expectations but also the factors influencing the operating context and likelihood of success. It’s where techniques like systems mapping, risk profile mapping and stakeholder analysis can prove very useful in exposing and articulating critical cause-and-effect relationships. In environmental management settings, the Australian pressure-state-response (PSR) or European driving forces, pressure, state, impact and response (DPSIR) frameworks can be very useful.

3) Define the indicators that comprise Information Products

Unpacking information products reveals the indicators and data sets from which they are comprised. The task is to specify each of the data sets mindful of attributes like the required measures or metrics, resolution and frequency of collection. A further important consideration is the end use of the data and what levels of privacy protection might be required. This attribution process not only affects what data is to be collected and how, but also how it should be stored and curated.

It’s at this stage that two important opportunities emerge – to identify (a) the ‘rich vein’ of most valuable data, and (b) potential cost saving and cost sharing opportunities.

When multiple information products are deconstructed into their component indicators it can be useful to ‘overlay’ those indicator sets. Often a sub-set of indicators will emerge that are required in several information products, data that can be collected once and used many times. This process identifies the data sets that are more useful and valuable – somewhat like the ‘vital signs’ a doctor might use. Furthermore, if the construction of information products can be simplified to use mainly this sub-set of indicators (such as by using reliable heuristics) then it opens the opportunity to streamline the data collection and analysis process, thus reducing costs.

The second opportunity arises by examining who would value each data set. It may be another functional team or performance unit within the same organisation, or an entirely different organisation. Irrespective, the opportunity may exist to discuss sharing of the costs for collecting and managing the data, particularly if cost pressures might otherwise require consolidation in the data collection activities. Where no stakeholder has an interest in data being collected, it provides an opportunity for cost savings.

4) Refine your data collection and analysis system

Finally, we can design or refine the systems to collect, store and analyse the essential data – again not losing sight of the audience and decision it needs to support.

Figure 2. The DREAM process canvas

Business / Program Goal 		Critical Decisions 		
Rich Information Product 				
Indicators 		Key Causal Factors and Assumptions 		
Data Specification 				
<i>Measure</i>	<i>Metric</i>	<i>Collection Frequency</i>	<i>Source / Supplier</i>	<i>Other Stakeholders</i>

A false assumption that is often made is that such systems are complicated and costly. One of three situations most often tends to arise:

- a. An opportunity exists to collect data more cheaply and effectively.
- b. Existing systems remain in use with little or no marginal cost impact.
- c. Expanded data collection systems are required, but now with a much clearer decision logic supporting an objective cost-benefit comparison and return on investment.

In any event, decision makers and their data managers are in a solid position to make a well-informed business decision.

The process in action

So what does this process look like in practice? Well here's a real situation from the context of a professional services firm that illustrates its application.

Case 8. ABC Consulting, like many of its peers, understood that its business viability was founded upon the knowledge and consulting skill of its professionals. Attracting and retaining talented professionals was pivotal to the firm's ongoing success. This was reflected in its business strategy and annual business plan where the stated goal was:

Goal: Retain our top talent

To track performance against this goal the executive team was employing a metric for which they had some years of historical data:

Metric: Staff attrition rate (turnover as a percentage of total permanent workforce)

Can you see any problems? There are several, explained below.

Jenny, a member of the executive team, was concerned about several of the measures being adopted to assess business performance. She illustrated her point by explaining the 'staff attrition rate' metric didn't tell them much about top talent. It was also a lagging indicator that didn't drive proactive staff engagement.

She organised some time at an executive meeting to see whether more useful goals and metrics could be defined. After a little cajoling the executive team agreed that while the intent of the goal was generally understood it was not effectively articulated. It was modified to:

Revised Goal: Develop top talent to realise our market growth opportunities

Jenny probed further. She enquired about the decisions they needed to be making to meet their 'top talent' goal. The executive resolved upon two questions that reflected the key decision space:

Q1. What improvements in leadership and management practices need to occur to attract and retain our top talent?

Q2. What changes do we need to make to best deploy our top talent to maximise return to the business?

The executive team felt it had been a useful discussion and asked Jenny to keep the process going offline. Working with a small team drawn from human resources and operations, sketches were developed depicting the information that would be useful to answer both questions. Jenny and the team worked out they needed to know:

- *The attributes of someone considered to be top talent*
- *The people that then fell into the category of top talent*
- *The key attributes of good leadership and management that kept their top talent engaged rather than seeking new opportunities.*

Jenny then wanted to be able to see how each operations unit was performing against those key leadership and management attributes, and which operations unit had the greatest opportunities for revenue improvement (either by increasing work won or by streamlining operating costs).

The team found it quite easy to construct the list of data they required, as well as where and how they'd obtain it.

Indicators	Data Sources
Names of 'top talent' people	Provided each 6 months by operations managers
Performance ratings against key leadership attributes	Obtained annually via an online survey, or more frequently if individual operations managers wanted
List of operations centres	Provided by the Finance department
Risk-weighted revenue potential over 1 and 3 year periods	Drawn from the firm's prospects and projects database managed by the Sales and Operations

What are the key take aways?

Many public and private organisations are wasting time and money on data, information and decision making processes that are not serving them well.

Escalating financial, social and competitive pressures, coupled with demands for more transparent and effective governance, means governments and businesses alike must be smarter in their collection and use of data.

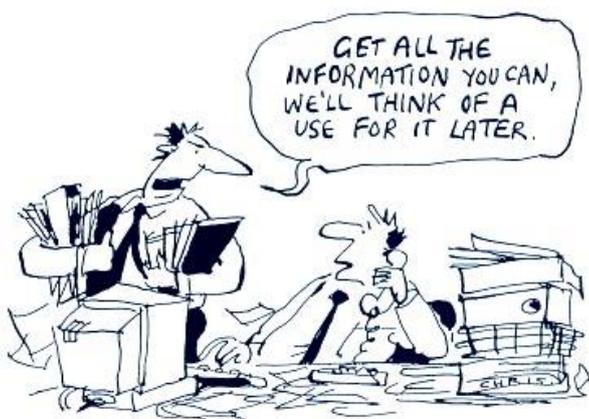
The ever expanding capacity for data collection and analysis does not diminish this requirement. Indeed, the growing complexity of operating environments and our greater awareness of cognitive biases means leaders must be more vigilant.

Well-placed investments to gather data that meaningfully inform the decisions critical to progress will make a material difference to the productivity and prosperity of industry and society.

Simple approaches, like the DREAM process, exist to help business and program managers extract much greater value from their effort and investments in monitoring, analysis, reporting and decision making.

This new information was deployed quickly and easily. After just the first cycle of use managers were contacting Jenny to tell how useful the process had been. Previously the attrition data would have attracted little meaningful discussion. Now everyone was more engaged. Staff wanted to know what it meant to be regarded as 'top talent' and what they needed to do to achieve that status. Managers were more conscious of their leadership behaviours. The Sales team saw a tangible application of their prospects and project data, and how it directly affected key capability building decisions.

What started out as a relatively innocuous discussion about the executive's dry performance metrics had a far more profound, distributed benefit.



References

1. IDC (2014) *The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things*, EMC Digital Universe with Research & Analysis by IDC.
2. James Manyika, Michael Chui, Brad Brown, Jacques Bughin, Richard Dobbs, Charles Roxburgh, Angela Hung Byers Report (2011) *Big data: The next frontier for innovation, competition, and productivity*, McKinsey Global Institute.
3. Maurice Lévy (2015) *Do not let fear kill the promise of Big Data*, Financial Times, September 1, 2015.
4. Steven D. Levitt, Stephen J. Dubner (2005) *Freakonomics*, Penguin Books.
5. Alistair Croll (2014) *Data: Emerging Trends and Technologies – How sensors, fast networks, AI, and distributed computing are affecting the data landscape*, O'Reilly Publishers.
6. Nathan Green (2012) Correlation is not causation, Mathematics in *The Guardian*, Saturday 7 January 2012.
7. Peter M. Senge (1990) *The Fifth Discipline: The Art and Practice of the Learning Organization*, Doubleday/Currency.
8. Wilson, Paul F., Larry D. Dell, Gaylord F. Anderson (1993) *Root Cause Analysis: A Tool for Total Quality Management*, ASQ Quality Press, Milwaukee, Wisconsin.
9. Daniel Kahneman (2011) *Thinking Fast and Slow*, Farrar Straus and Giroux.
10. P.J. Lamberson (2014) *Big data and the wisdom of the crowds are not the same*, Social Dynamics, UCLA.
11. Philip Ball (2014) *Wisdom of the crowd: the myths and realities*, BBC Future.
12. Fleming N.S., S. Cooper (2013) *Insight Trading – Collaborating to transform the infrastructure that shapes society*, Sinclair Knight Merz, Sydney.
13. Travis Pearson, Rasmus Wegener (2013) *Big data: the organisational challenge*, Bain & Company.
14. Fleming N.S. (2005) Systems Based Planning and Information Networks for Sustainability, In: *Working on the Frontier – Environmental Sustainability in Practice*, EIANZ Conference, 29 March – 1 April 2005
15. Ian McVey (2013) *Only a quarter of EU organisations have built a business case for big data, finds survey*, 19 March 2013, Intexion, London.
16. Raghu Pant (2014) Monday Metric: The promise of Big Data for public sector, *Digitalist Magazine*, 2 June 2014, SAP.

